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REMARKS

Reconsideration of the objections and various rejections set forth in the Office Action dated November 13, 2002 is respectfully requested in view of the foregoing Amendment and following Remarks. Upon entry of this amendment claim 1-6 will be pending in this application. New claims 5 and 6 have been added. Claims 1 and 3 have been amended. Claims 2 and 4 are as originally filed.

Please note that this application was selected for the image technology pilot project, and Applicants have followed the instructions in regard to amendments and responses. As such, no clean copy of the amended claims has been provided.

Claim Objection: Informalities

Claim 1 has been objected to because of informalities at line 7, wherein the Examiner as stated that "in said flexible . . . " should be changed to "said flexible . . . " Claim 1 has been so amended and as amended, the objection is no longer applicable.

Claim Rejections Under 35 U.S.C. §112, Second Paragraph

Claims 1 and 2 have been rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Claims 1 and 2 have been asserted to be unclear because of specific language pointed out by the Examiner. As amended, the claims no longer includes the language asserted by the Examiner to be unclear.

With regard to claim 1, lines 2-3, the claim was rejected since it was asserted that the phrase "an internal layer circuit board which can be a cable portion" is not a positive claim. As amended, claim 1 no longer includes this language and proper rejection under 35 U.S. C. §112, second paragraph, does not apply.

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With regard to claim 1, line 4, the claim was rejected since it was asserted that the phrase “external layer circuit board, which can be a component,” is not a positive claim. Claim 1 has been amended and no longer includes the language rejected by the Examiner.

With regard to claim 1, lines 4-6, the Examiner stated that the phrase “external layer circuit board . . . at a predetermined position” is not understood. Claim 1 has been amended and no longer recites the language asserted to be not understood by the Examiner.

With regard to claim 1, lines 7-9, the phrase “in said flexible multiplayer circuit board . . . ‘**predetermined positions**’ of the internal circuit board” is not understood. Claim 1 has been amended and the language asserted to be not understood is no longer present. Therefore, any proper rejection under 35 U.S.C §112, second paragraph does not apply.

With regard to claim 1, lines 10-14, the phrase “a surface protection layer formed on an external surface of a wiring pattern . . . is formed in a region . . . plated conduction portion” is asserted to be not understood by the Examiner. As amended, claim 1 no longer includes the language asserted by the Examiner to be not understood and as such any proper rejection under U.S.C. §112 second paragraph does not apply.

Claim Rejection Under 35 U.S.C. §102

Claims 1-4 have been rejected under 35 U.S.C. §102(b) as being anticipated by Yanagi et al (JP 06-085406 A, hereafter referred to as the JP patent), wherein it has been asserted that the JP patent “discloses a through hole conduction structure of a flexible circuit board . . . and a method of forming a through hole conduction structure of a flexible multiplayer circuit board. . .”

The courts have a long history of consistently holding that “to anticipate a claim, a prior art reference must disclose every limitation of the claimed invention, either explicitly or inherently.” In re Schreiber, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997). As also stated in In re Oelrich, 666

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F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981) (quoting Hansgirk v. Kemmer, 102 F.2d 212, 214, 40 USPQ 665, 667 (CCPA 1939)). Further, a prior art reference may anticipate when the claim limitations not expressly found in that reference are nonetheless inherent in it. See In re Oelrich, 666 F.2d at 581; Verdegaal Bros., Inc. v. Union Oil Co. of Cal., 814 F.2d 628, 630, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Additionally, a rejection based on anticipation is not proper if the prior art does not necessarily function in accordance with, or include, the claimed limitations, it is asserted to anticipate. See In re King, 801 F.2d 1324, 231 USPQ 136, 138 (Fed. Cir. 1986).

Applicants' respectfully assert that the claimed invention is not anticipated either expressly or inherently by the JP patent, since the JP patent does not disclose at least a surface protection layer having a retreated portion, which is outwardly retreated, from the outside edge of the through hole. In contrast as shown in Figures 1 and 2 of the JP patent, a cover film or cover coat 6A and 6B is in direct contact with the through hole plating is not retreated toward the outside.

Claimed Invention Non-Obvious

Since the JP patent does not include at least these claimed limitations, either expressly or inherently, a rejection based on anticipation is not proper in this case. Applicants' respectfully request that the rejection under 35 U.S.C. §102(b) be withdrawn.

The claimed invention is additionally nonobvious with regard to the JP patent since there is no teaching or suggestion in the JP patent or within the knowledge of one of ordinary skill in the art at the time the invention was made to provide the JP patent with a surface protection layer having a retreated portion which is outwardly retreated from the outside edge of the through hole. In the present invention, the cover film is retreated toward the outside so that it is spaced from the through hole to prevent the occurrence of a crack in the through hole plating, thereby preventing destruction of the through hole plating caused by

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thermal expansion of the cover film which is quite different from the JP patent document.

In addition, none of the other cited documents disclose, teach or suggest at least a surface protection layer having a retreated portion which is outwardly retreated from the outside edge of the through hole. As such, a rejection under 35 U.S.C. §103 would not be proper with regard to these references either individually or in combination, since there is at the minimum no suggestion or motivation present in the teaching or disclosure of the cited references, or within the knowledge of one of ordinary skill in the art as evidenced by, at least, the cited references to do what the Applicants have done in the claimed invention. Additionally, as thoroughly discussed in a recent court holding:

“...the essential factual evidence on the issue of obviousness is set forth in Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966) and extensive ensuing precedent. The patent examination process centers on prior art and the analysis thereof. When patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence of obviousness. See, e.g., McGinley v. Franklin Sports, Inc., 262 F.3d 1339, 1351-52, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) (“the central question is whether there is reason to combine [the] references,” a question of fact drawing on the Graham factors).” In re Lee, 61 USPQ2d, 1430 (Fed. Cir. 2002)

Such a rigorous examination required by law clearly would find the claimed invention non-obvious based on at least a study of the problem to be solved by the Applicants.

New Claims 5 and 6

Applicants have added new claims 5 and 6. New claims 5 and 6 do not add new matter and are fully supported by the specification as filed. For example, Applicants direct the Examiner's attention to the first paragraph on page 5 of the specification which reads in one pertinent part, "As an example, when the diameter of the through hole 13 is 0.3 mm, there are used surface protection layers 3 and 5 each of which has a hole of 0.7mm...".

In summary, Applicants' have addressed each of the rejections within the present Office Action either by Amendment or Remark. It is believed the application now stands in condition for allowance, and prompt favorable action thereon is earnestly solicited.

Respectfully Submitted,
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